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Beyond the Fear of Artificial Intelligence and Loss of Job: a Case for Productivity and Efficiency

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Abstract

The article looks at the effects of artificial intelligence on human growth and concerns that the expansion of the productive sector may imperil the availability of jobs for humans. Managerial focus has switched to the employment of machines in caring for out productive operations as a means of decreasing costs as a result of the rise in the expense of labour, particularly in the manufacturing business, but this strategy is not without concerns. Since the propensity to eliminate or minimize the amount of human involvement in the production process is frequently contrasted with the gain in productive efficiency brought on by the employment of machines, there is fear that such a measure could result in the loss of jobs for humans. It has been stated that those who oppose artificial intelligence have seen its detrimental effects on contemporary society but have failed to recognize its favourable effects on production and efficiency. In other words, artificial intelligence is here to stay since it can accurately complete more difficult tasks in less time. Additionally, it boosts output of products and services in the smallest amount of time. We contend that improvements in labour productivity and efficiency would always result in the addition of new jobs rather than denying humans of jobs.

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1. Introduction

The primary drive underlying the development of artificial intelligence, which progressed from simple hearsay to the machine manipulation of symbols that gave rise to the industrial revolution, has been a sense of a better existence. Artificial intelligence is made up of the words 'artificial' and 'intelligence', where 'artificial' denotes 'human-created' and 'intelligence' denotes 'thinking power'. It is defined as "a science and a set of computational techniques that are inspired by the way in which human beings use their nervous system and bodies to feel, learn, reason, and act" (Sharma and Garg, 2022, p. 3). Artificial intelligence is, in other words, "a man-made creation with thinking capability and ability to reason, perceive relationships, analogies, and comprehend complicated ideas by storing and retrieving knowledge and adapting to new situations" (Sharma and Garg, 2022, p.3). Due to management competition to stay relevant in the global business environment, production and manufacture of goods and services have evolved with artificial intelligence and modern technology, becoming more complex, competitive, and efficient. In order to adapt to changing circumstances, academics have been working on various ways to improve manufacturing and production processes since the development of computers and other machinery.

Artificial intelligence (AI) technologies like computer vision, Natural Language Understanding (NLU), cloud computing, smart homes, and others are currently being employed more and more in the manufacturing sector. The prognosis of traditional manufacturing industries dependent on manpower development is no longer positive due to the decline in the share of the work force and the rise in personnel costs (Liu and Zhan, 2020). Concerns have been raised about the potential consequences of artificial intelligence, particularly labour displacement, on the labour market given its prevalent usage and implementation. Herbert Simon, the economics Nobel Prize laureate, made the following statements in an effort to draw attention to a potential impact of artificial intelligence on the availability of jobs:

> *In 1956, a common belief among observers was that "Machines will be capable, within twenty years, of doing any*

> *work a man can do," and that consequently, in addition to the traditional blue-collar occupations in the manufacturing sweatshops, new technologies will render many other jobs obsolete (Ernst, et al., 2018, p.1)*

Herbert believes that due to computers' role in banking and other office tasks, people are already familiar with them. Regarding the potential loss of human jobs in the future, Herbert adds the following:

> *Today, we are accustomed to using computers everywhere, whether it be at home, office, the bank, while travelling, or even just to place an order for food at the nearby drive-in restaurant. We hardly ever consider the occupations that might have been lost as a result of these robots and computers (Ernst, et al., 2018, p.1)*

However, they failed to anticipate the huge production and manufacturing of goods and services around the world. Some scholars have warned that the introduction of robotics and artificial intelligence into the workplace will lead to a massive loss of jobs. The study makes the case that, despite the possibility of some jobs being lost to automation, more jobs are being created as a result of artificial intelligence. To accomplish the goals, we will: (i) talk about artificial intelligence; (ii) look at its various forms and applications. (iv) Machine learning and the modern economy Discuss the potential employment losses caused by artificial intelligence in (iii) and (iv) argue that these technologies are here to stay due to their positive effects on productivity and efficiency.

2. Artificial Intelligence

'Artificial intelligence' is made up of the words 'artificial' and 'intelligence', where 'artificial' denotes something that is made by humans and 'intelligence' denotes something that has the ability to think. In other terms, artificial intelligence refers to "a man-made item whose intelligence is intangible and may be described as a system's ability to calculate, see relationships and analogies, learn from experience, store and retrieve information from memory, solve problems, comprehend, and learn from mistakes, categorise, generalise, and adapt to new situations; employ complicated ideas; and speak naturally" (Sharma and Garg, 2022, p.3). Artificial General Intelligence (AGI), also known as strong AI, is the long-term objective of many researchers. It refers to a machine that can apply intelligence to any problem rather than just one particular problem, and is often defined as being "at least as smart as a typical human" (Saleh, 2019, p.4). People no longer view businesses from the perspective of industries, but rather from that of knowledge, since the most successful enterprises are those that have been able to recognise, assess, produce, and turn their knowledge assets. Organisations can utilise intelligent agents for a variety of tasks, such as user profiling, pattern matching, text mining, and semantic text analysis, thanks to a variety of artificial intelligence technologies, such as neural networks, intelligent agents, and genetic algorithms (Mansoori, *et al.*, 2021).

Examining AI in the year 2020 reveals that it has already established itself in a number of usage scenarios, such as business, tourism, and everyday life contexts, such as improving customer services to monitor and report particular business purposes, and to assist customers with questions and transactions (Grundner and Neuhofer, 2021). By creating

creative AI-based solutions to improve autonomous delivery of products and services, production automation, and other areas, artificial intelligence offers technical solutions to organizations, governments, and people at the base of the economic pyramid in emerging countries (Agarwall, *et al.*, 2021). One of the fastest-growing industries in the industrial sector is robotics, which offers standardized technologies suitable for diverse automation processes by managing and reprogramming manufacturing processes. In the past, robotic systems have frequently taken the place of manual human labour in industry; nonetheless, contact between humans and machines/robots is still necessary inside complicated systems (Dzedzicks, *et al.*, 2014).

3. Types of Artificial Intelligence

When discussing artificial intelligence and its explosive expansion in manufacturing and industrial operations with the ability to mimic human behaviour, it's critical to keep in mind the various types of AI and the criteria used to categorize them. Artificial intelligence can be divided into three main forms based on its functional nature.

3.1. Narrow or Weak Artificial Intelligence

This category of machines takes care of the given tasks. The phrase ‘narrow’ suggests that the machine's emphasis is restricted to a single action, much like gaming machines that follow instructions exactly. The inference is that these machines are not equipped to deal with abrupt or developing changes that might not be included in their software settings. Researchers find it challenging to create an automatic computer that plays that game on a human level, which is why it is dubbed Narrow Artificial Intelligence. In this category, it is easier to play a game with a machine than to design it to do diverse duties. Experts in this field claim that the most cutting-edge artificial intelligence systems currently in use, like the renowned IBM Watson or Alpha-Go from Google are still regarded as ‘narrow’ (weak) because they only ever take part in the scenarios that they have been taught to handle (Miailhe and Hodes, 2017). To put it another way, they are still quite limited in comparison to the versatility of the human mind, even if they are capable of generalizing pattern recognition, such as transferring knowledge learnt in the context of picture recognition into speech recognition. Google search is under the umbrella of artificial narrow intelligence, and this device is helpful in tracing or determining our path to a particular location we are unfamiliar with. Nowadays, autonomous vehicles and unmanned drones are common applications used to observe the environment, become aware of the current situation, make plans and judgments, and take actions— all with little to no human involvement. Sophia the Humanoid and other machines in this category include self-driving cars. Nevertheless, this position is anticipated to change with the convergence of machine learning and neurosciences in the coming decades. However, researchers have profoundly divergent opinions about the likelihood and timeline of the march towards AGI: some claim it will never happen, while others claim it will take at least 100 years (Miailhe and Hodes, 2017).

3.2. General Artificial Intelligence (Strong AI)

The goal of modern artificial intelligence (AI), which has made significant progress over time, is to develop and research

software or hardware systems with general intelligence (GI) that is comparable to or greater than that of human beings. However, there is a concern with this, and that has to do with the worry that AI is creating a system that can not only match but surpass human-level thinking. In their articles on the effects of general AI, Sadiku and others state the following:

> *A machine with artificial general intelligence (AGI) can comprehend the world just like a person. It is capable of exhibiting intelligence unrelated to a narrow range of tasks, much like a constructed system would. Every task currently carried out by humans could be replaced by these machines (Sadiku, et al., 2020, 7)*

Since 'general intelligence' is fundamentally different from task- or problem-specific capability, the term 'Artificial General Intelligence' (AGI) has emerged as an alternative to 'narrow AI' to describe systems with some degree of broad generalization capability. AGI places a direct emphasis on comprehending this property and developing systems that exhibit it (Goertzel, 2014). General artificial intelligence (general AI) is thought to be more powerful because it can perform tasks as well as most humans, despite the fact that it has not yet been fully developed. Examples of what general AI might look like can be seen in sci-fi films like Her, where machines can display human-like intelligence and behaviour (Manen, 2020, 22).

Beyond the disagreements among experts, it could be dangerous to overly rely on the boundary between general and narrow artificial intelligence because it uses human intelligence as its standard of measurement. Because we do not yet fully understand the intricate mechanisms that govern the brain and the ways in which human intelligence and consciousness manifest themselves, doing so could put us at risk (Miailhe and Hodes, 2017).

3.3. Super-Artificial Intelligence

Because it believes that in order for a person to be happy, they must have the majority of their needs met, Artificial Super-Intelligence aims to build computers that are smarter than the human brain. However, this desire to use a super-intelligent machine to fulfil human wants creates a number of significant societal issues: What are the crises and shocks brought on by the AI machine that will bring about fundamental change, and how should we respond to the ensuing change? What would happen if a machine with super intelligence took control and changed how people live and work? What impact would technology have on the availability of jobs, the economy, state, democracy, and governance? (Gill, 2016). "The rise of AI could lead to an intelligence explosion" as early as 2045, claims a controversial scenario popularized by inventor, futurist, and current Google Director of Engineering Ray Kurzweil. This explosion would be caused by the emergence of an Artificial Super Intelligence (ASI), or self-recursive Artificial Intelligence (Miailhe and Hodes, 2017).

While Artificial General Intelligence (AGI) would surpass humans at practically every cognitive task, Narrow Artificial Intelligence (NIAI) would likely outperform humans at whatever its specific task was, such as playing games, chess, and solving equations. The ultimate hypothetical objective of the Super Intelligence machine considerably exceeds that of the smartest and most talented human minds, and due to recursive self-improvement, Super-Intelligence is projected to be a

quick result of developing and enhancing artificial general Intelligence (Saleh, 2019). In the event that Artificial Super Intelligence materializes in the twenty-first century as predicted by experts, the new technology would offer the possibility of a better life with increased productivity in the manufacturing sector, security, and health. Humans now have very little ability to repair our brains, and it is uncertain if they will ever be able to. In addition, post-singularity AI may be intelligent enough to ensure the availability of resources while also devising a strategy for sustainable growth in a world where the progress of AI is driven by itself, in an unforeseen direction, at an unfathomable rate (Jiang, et al., 2022).

4. Artificial Intelligence and Modern Economy

From a commercial standpoint, the future is aimed at a global oligopoly that is ruled by a dozen American and Chinese artificial machines for global competition that is played based on the volume of production and quality of goods and services. These technological behemoths are creating ecosystems around a ‘AI tap’ that they own, and fierce rivalry is raging to establish themselves as the ‘go to’ AI platforms that store customer and company data (Miailhe and Hodes, 2017). In the near future, increased productivity which includes automating repetitive tasks, enhancing employee capabilities, and freeing them up to concentrate on more stimulating and value-adding work activities—is likely to represent artificial intelligence's biggest potential economic development. Because many of their operational procedures are heavily dependent on automation, capital-intensive industries like manufacturing and transportation are anticipated to experience the highest productivity improvements from AI. When this automation is completed, the GDP increase brought on by product improvements and ensuing Artificial intelligence-driven changes in consumer demand, behaviour, and consumption will outpace productivity improvements, potentially resulting in an increase in GDP of more than $9 trillion by 2030. Consumers will be drawn to better quality items and more individualized products and services, but they will also get the chance to make better use of their time. Think about what you could do, for instance, if you were not forced to go to work. The capacity to better understand consumer preferences, adjust their output to meet these specific needs, and thereby take a larger share of the market are further direct benefits (Gillham, 2017).

5. Health

The phrase ‘artificial intelligence’ is typically used to describe behaviour that resembles that of humans, although it should actually be viewed as an all-encompassing concept. Current applications have been created to perform specific tasks, such using medical data to make predictions or suggestions (Mirbabaie, 2021). The following is Harari's assessment on the benefits of AI for the health industry:

> *The majority of our medical judgments today are based on computer calculations that comprehend the human body more thoroughly than we do, not on our feelings of health or illness or even the well-informed projections of experts. Long before we experience any symptoms, artificial intelligence could identify the earliest stages of influenza, cancer, or Alzheimer's disease (Harari, 2018, p. 35)*

Artificial intelligence is now increasingly widely employed in hospitals all over the world since it helps with medical difficulties including tracking patients' health conditions and supporting doctors in making diagnoses and coming up with effective treatment plans. Similar to echocardiography, where ultrasonic systems integrated with AI help in detecting patterns of heartbeats and diagnosing coronary heart disease, artificial intelligence in medical imaging shows promising results in detecting diseases like breast and skin cancers, eye diseases, and other medical implications through the systematic collection of medical scans and other health records (Islam, 2021)

Global health spending per person is excessive, and it is clear that system flaws including incorrect disease diagnosis, insufficient care services, pointless procedures, and exorbitant treatment costs are the main causes. However, by using the power of data to make faster diagnoses, appropriate treatments, and more informed decisions, artificial intelligence technologies have the potential to build an ecosystem that will eliminate these causes. When considering research on artificial intelligence in the medical industry, early and accurate diagnosis, appropriate treatment, and studies that will guide clinicians in making the best choices support their capacity to prevent the root causes of medical expenses (Mammadov, *et al*., 2020).

6. Security

Due to the increasing global security challenges, artificial intelligence machines are increasingly highly desired. A stark example of such threats to security is the use of artificial security agents by governments to monitor its citizenry. As artificial intelligence advances, both benign and repressive governments will be able to monitor their citizens through the use of algorithmic or data-driven systems for surveillance. Pro-Publics recent investigation on machine bias describes the use of algorithms in criminal court procedures. However, the most obvious concern is the growing search and seizure powers available to law enforcement groups and the ensuing erosion of privacy. Artificial intelligence is being employed more frequently in law enforcement, raising concerns about fundamental citizen rights. Although there were early concerns about potential 6th Amendment rights related with the use of evidence collected by nonhuman automated agents, another side of this issue regarding the use of traffic cameras emerges (Karthikeyan, et al., 2022).

Artificial intelligence has made significant contributions to cyber security, particularly deep learning, which may be used to develop smart models for malware categorization and intrusion detection as well as threat intelligence sensing. Cyber security and forensic experts are increasingly dealing with widespread cyber attacks in many parts of the world in modern society, where Artificial Intelligence technologies help most aspects of our society. As a result, it is impossible to detect, analyse, and protect people from such threats without the use of threat intelligence, big data, and machine learning techniques. Data loss is a significant area of cyber assault, and the key to data loss protection today includes encryption and tokenization, which safeguard data down to the field and subfield level and have several advantages for businesses adopting AI (Sandar, *et al*., 2019).

7. Artificial Intelligence and Possible Loss of Job

Concerns regarding artificial intelligence (AI) often stem from predictions that automation would cause labour markets to become unstable, stunt wage growth, and cause a long-term secular decline in both the labour market and the economy. Such worries are often justified by studies from the University of Oxford, the Organisation for Economic Co-operation and Development (OECD), and PwC (formerly Price Waterhouse Coopers), who predict that employment will drop by between 9 and percent from current levels (Rinehart and Edwards, 2020). Tim Hinks comments on the threat posed by artificial intelligence's rapid spread over the globe, saying: “The fear of potential job loss due to the impact of artificial intelligence is not just a Western problem but a universal issue.”

> *A number of researchers have also suggested that the rate of robots expansion will continue to and even speed up the lower wage share of output. This has implications for income inequality and the economic bargaining power of workers. Whilst a consensus is forming on the impact robots could have on people’s livelihoods there is also the frequently heard counter-argument that new jobs will be created and new products will be produced. Robots will also allow people to focus on aspects of jobs that they are better at, that they may prefer and would allow an extension to their working lives (Hinks, 2020, n.p).*

Despite this, there is little doubt that artificial intelligence will rule the future because, over the next 20 years, computers and robots may show that they can compete favourably with human intelligence by seriously challenging all of the tasks currently carried out by humans and, for the first time, casting doubt on the end of human supremacy. In my honest opinion, the issue with artificial intelligence and its monopolization of job opportunities is If we accurately foresee how AI developments will effect human roles and how the labour market might be dominated by machines with equal or higher intelligence, the challenge will be manageable (Makridakis, 2017).

To avoid underestimating the pace of technological development and its effects on all facets of our society, including work, life, and businesses, it is important to avoid extrapolating technological predictions made in the past and present in a linear approach (Makridakis, 2017). Developing AI technologies and their effects over the next 30 years, in my opinion, will likely have a significant impact on how much AI was employed during the Industrial Revolution, which was led by England. There is little evidence that the manufacturing industries will continue to rely only on human labour given the decline in the available labour force and the rising expense of retaining labour in many plants throughout the world (Liu and Zhan, 2020). On the one hand, experts contend that automation will boost production and efficiency while freeing humans from risky or unpopular duties. On the other hand, they contend that technological innovation has given rise to entirely new economic sectors and, ultimately, new jobs. There are a variety of predictions on what automation will ultimately entail for the future of labour. On the other hand, other experts say that the adverse effects of the rapidly developing automation technologies in contemporary society will include job loss, a widening income gap, and societal unrest (Gaus and Hoxtell, 2019).

8. Beyond the Fear of Artificial Intelligence and Loss of Job: A Case for Productivity and

Efficiency

There is no doubt that the development and use of artificial intelligence in contemporary productive and security operations has boosted the amount of items produced globally. Although there are various issues, it has improved the security of people and property. With conflicting reports that exaggerate the supposed inevitable of a significant displacement of people in the labour market by robots, there has been speculation that the automation of jobs in many companies may result in an impending mass loss of jobs, economic insecurity due to rising automation of machines, also known as 'the robot revolution', and job insecurity. As a result, a 2013 paper by Oxford University researchers warns that at least 47% of American jobs face the threat of automation. In addition, a 2017 McKinsey Global Institute report asserts that one third of American workers will lose their jobs due to the impending automation of jobs by manufacturers and other producers, including farmers (Cook, 2019).

What is omitted from discussions of job automation and its effects is the fact that, despite the fact that artificial intelligence has reduced the number of jobs available as a result of automating productive processes, it has also created a lot more new jobs. This is in line with a Deloitte report titled "Technology and People: The Great Job-Creating Machine," which found that automation has been "the great job-creating machine." It claimed that the past 200 years show that, strangely, quicker growth and, eventually, rising employment, rather than job losses, occur when a computer replaces a human. According to Brynjolfsson and McAfee, who commented on artificial intelligence's beneficial effects, automation machines are here to stay as a result of contemporary issues. They add the following:

> *We are in an era of "astonishing progress with digital technologies," according to the narrative, and as these technologies, such when the rise of artificial intelligence (AI) and the infamous robots, are refined, they will become more affordable and accessible (Cook, 2019, p.4)*

Automation has so far produced considerably more jobs than it has destroyed, and this process will continue on a more positive note rather than causing permanent unemployment. While there have been and will likely continue to be innovations that replace workers across the economy, the idea that automation will permanently displace workers is only a concern for those who believe there is a fixed amount of work to be done in the economy. People have been made to believe they would lose their employment, despite the fact that there will actually be more jobs in the future due to the fact that there will always be work to be done due to the insatiable nature of human demands. With the following justifications, we contend that widespread job loss will not result from job automated pattern.

9. Implications for Productivity

According to the president of the New York Chapter of the Internet Society, it is difficult to provide specific figures or statistics, but new jobs will also be created because, a century ago, pundits predicted the emergence of the Internet, the Web, and the widespread use of mobile communications, but they had no idea that a brand-new profession known as 'web developer' would emerge. John Wooten, the founder and CEO of Consult-ED, is confident that job automation won't

result in a loss of jobs. He believes:

> *By 2025, I do not think it will have a larger displacement over creation ratio. Surprisingly, current advances in automation and business intelligence tools have increased job creation in the areas I have worked in. For instance, the deployment of "cloud" computing gives I.T experts the capacity to perform services that are more crucial to the organisation as a whole, increasing the business need for hiring more I.T. providers, not less (Murray, 2014, p.34)*

Thomas Haigh, an associate professor of information studies and an information technology historian at the University of Wisconsin, noted that while many technologies have increased productivity over the past 200 years by eliminating jobs, widespread technological unemployment has never been a long-term reality. According to him, it is improbable that new productivity technologies will create more employment than they will eliminate because the economy will continue to migrate towards non-automatable human services (Murray, 2014).

As assisted radiology and imaging gain from computer-guided and big data expanded capacities to diagnose and forecast future outcomes at the same time based on large scale samples, robotics have joined the medical field (Puaschunder and Feierabend, 2019). Job automation has also created significant efficiency gains in manufacturing processes and made it possible for customers to purchase goods and services online without having to go to a physical store. This achievement shows the huge productivity improvements being realized, for instance by Amazon's effective use of digital technologies and the Internet, while also eliminating a significant amount of repetitive mental activities carried out by individuals. The potential of artificial intelligence undoubtedly boosts productivity in areas where it outperforms humans by enabling us to carry out faster computations and solve more challenging problems in a more efficient manner (Karthikeyan, *et al*., 2022).

10. Implications for Efficiency

Artificial intelligence has been around for a while, and one key component of the machine is its compute capacity, which has been recognized as being effective in the processing of data; as a result, current computing machines can now handle over ten trillion bytes of data in just a few seconds. In many circumstances, technology promotes employment for employees who are not in direct competition with it, according to optimists, who contend that while technology may replace some forms of labour, efficiency advantages from technological augmentation outweigh transition costs (Morgan, *et al*, 2019). The skill requirements for any job title also change over time to meet shifting labour needs, thus they are not static.

Although technology may reduce employment for some forms of labour because social skills are still difficult to automate, it also creates new requirements and possibilities through a process known as ‘creative destruction’. Artificial intelligence is here to stay since it can accurately complete more difficult tasks in less time because it boosts output of products and services in the smallest amount of time.

11. Conclusion

Artificial intelligence improves our lives every day. The use of ride-sharing services, email programmes, and other applications that help us with daily tasks are all powered by artificial intelligence (AI). Technology based on artificial intelligence is important because it enables software to carry out human functions like thinking, reasoning, planning, communication, and perception more effectively, efficiently, and affordably. In areas where it excels over humans, artificial intelligence boosts productivity by enabling us to make faster calculations and resolve more challenging problems.

Some scholars have asserted that a significant loss of jobs is imminent as robotics and artificial intelligence become more prevalent in the workplace. Because of the promise of artificial intelligence, businesses and people are making better use of their skills. We must, however, be alert to the fact that artificial intelligence is truly designed to improve our lives. It could be seen as a tool that enables us to transcend our surroundings.

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